

What is claimed is:

1. A transparent coating with a thickness of at least 30 μm , a relative elastic resilience to DIN 55676 of at least 70%, and a scratch resistance corresponding to a score of not more than 2 in the steel wool scratch test to DIN 1041 after 10 double strokes.
2. The coating as claimed in claim 1, having an elastic resilience of at least 74%.
3. The coating as claimed in claim 1 or 2, having an elastic resilience of at least 78%.
4. The coating as claimed in any of claims 1 to 3, having a thickness of at least 40 μm .
5. The coating as claimed in any of claims 1 to 4, having a transmission $> 90\%$ for light with a wavelength of between 400 and 700 nm.
6. The coating as claimed in any of claims 1 to 5, having an adhesion in accordance with DIN ISO 2409 to degreased float glass and degreased stainless steel 1.4301 of GT/TT 0/0.
7. The coating as claimed in any of claims 1 to 6, having on pigmented basecoats an adhesion to DIN ISO 2409 of GT/TT 0/0.
8. The coating as claimed in any of claims 1 to 7, which is thermosetting.
9. The coating as claimed in claim 8, which is preparable from a curable coating material.
10. The coating as claimed in claim 9, wherein the coating material is thermally curable.
11. The coating as claimed in claim 9 or 10, wherein the curable coating material is composed of organic and inorganic constituents.

12. The coating as claimed in claim 11, wherein the curable coating material has an ignition residue of at least 10% by weight.
13. The coating as claimed in any of claims 1 to 12, comprising or consisting of an aqueous dispersion with a pH of from 2 to 7 comprising
 - (A) at least one swellable polymer or oligomer containing anionic and/or potentially anionic and/or nonionic hydrophilic functional groups,
 - (B) surface-modified, cationically stabilized inorganic nanoparticles of at least one kind, and
 - (C) at least one amphiphile.
14. The coating as claimed in claim 13, wherein the aqueous dispersion, based on its total amount, has a solids content of up to 60% by weight.
15. The coating as claimed in claim 13 or 14, wherein the aqueous dispersion, based on the sum (A) + (B) + (C), contains
 - from 1 to 30% by weight of (A),
 - from 60 to 98% by weight of (B), and
 - from 1 to 10% by weight of (C).
16. The coating as claimed in any of claims 13 to 15 wherein the polymers and oligomers (A) are selected from the group consisting of polymers and oligomers which contain anionic and/or potentially anionic functional groups and which, at a pH of from 2 to 7, have an electrophoretic mobility $\leq -0.5 \text{ (}\mu\text{m/s)/(V/cm)}$.
17. The coating as claimed in any of claims 13 to 16, wherein the inorganic nanoparticles (B) are selected from the group consisting of main group metals, transition group metals, and their compounds.
18. The coating as claimed in any of claims 13 to 17, wherein the amphiphiles (C) are selected from the group consisting of monoalcohols and aliphatic polyols.

19. A process for producing a coating as claimed in any of claims 1 to 18 by applying a coating material to a substrate or to an uncured, part-cured or cured film present thereon, which comprises
 - (1) selecting a coating material which following its solidification or curing has an elastic resilience to DIN 55676 of at least 70% and a scratch resistance corresponding to a score of not more than 2 in the steel wool scratching test to DIN 1041 after 10 double strokes, and
 - (2) applying the coating material (1) in one step.
20. The process as claimed in claim 19, wherein the coating material is applied by spraying.
21. The use of a coating as claimed in any of claims 1 to 18 or of a coating produced by the process as claimed in claim 19 or 20 for protecting surfaces of substrates against damage by mechanical exposure and/or for their decoration.
22. The use as claimed in claim 21, wherein the substrates are motor vehicles or parts thereof, buildings, furniture, windows, and doors, small industrial parts, coils, containers, packaging, electrical components, white goods, films, or hollow glassware.